

FIG. 1

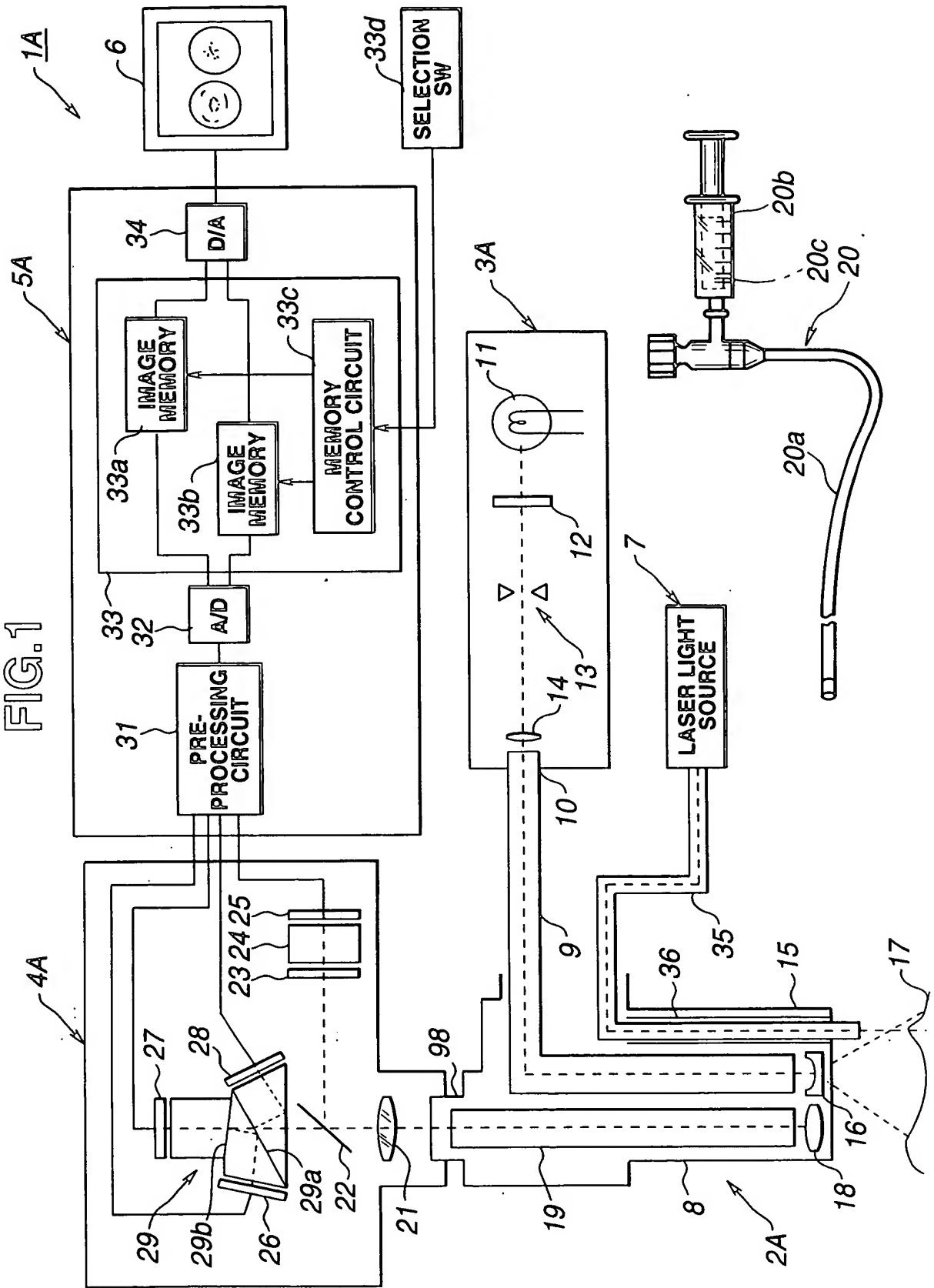


FIG.2

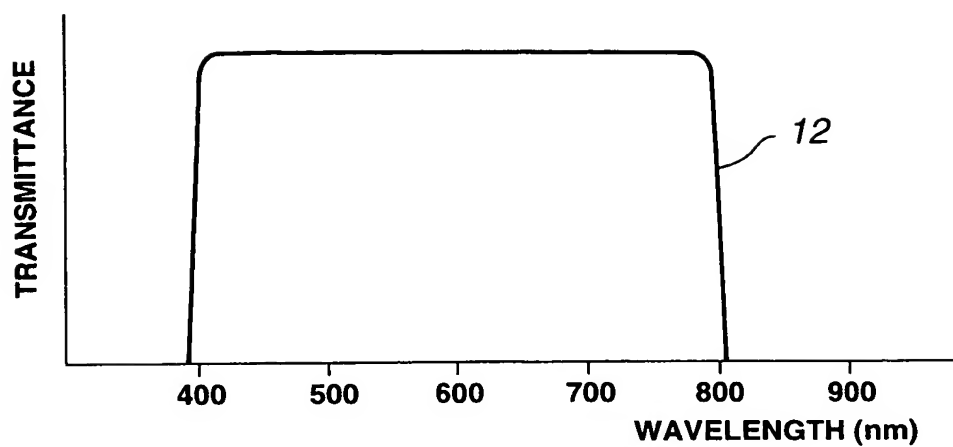


FIG.3

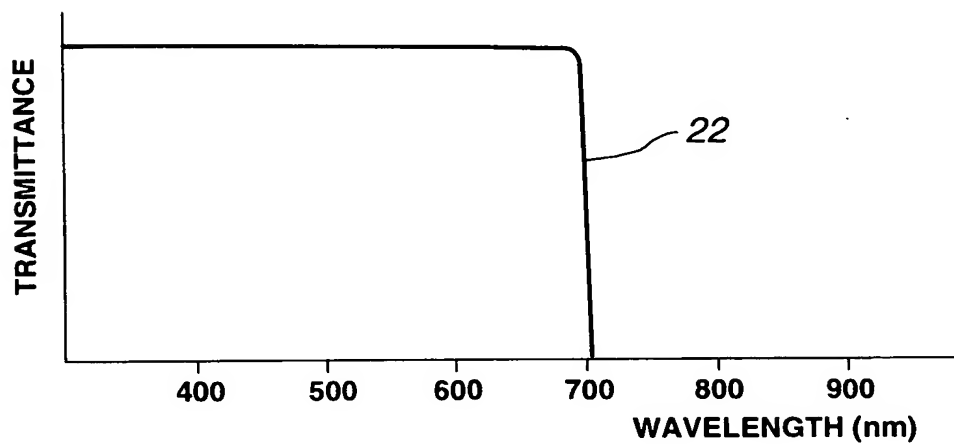


FIG.4

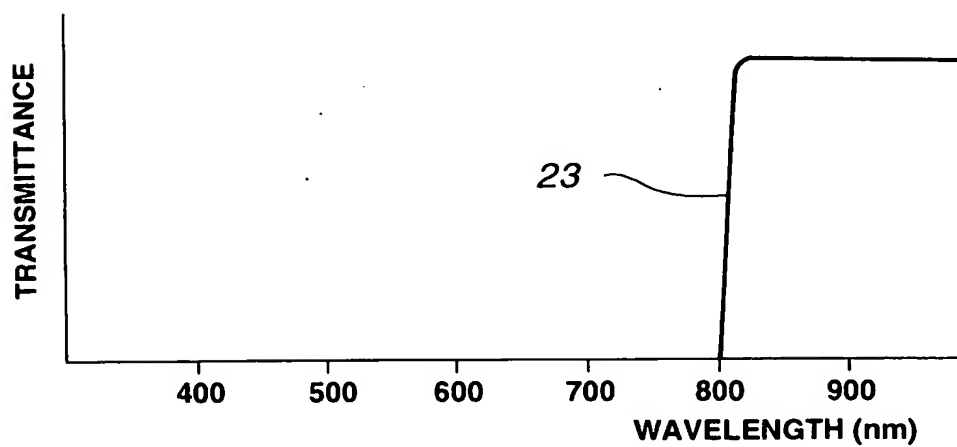


FIG.5

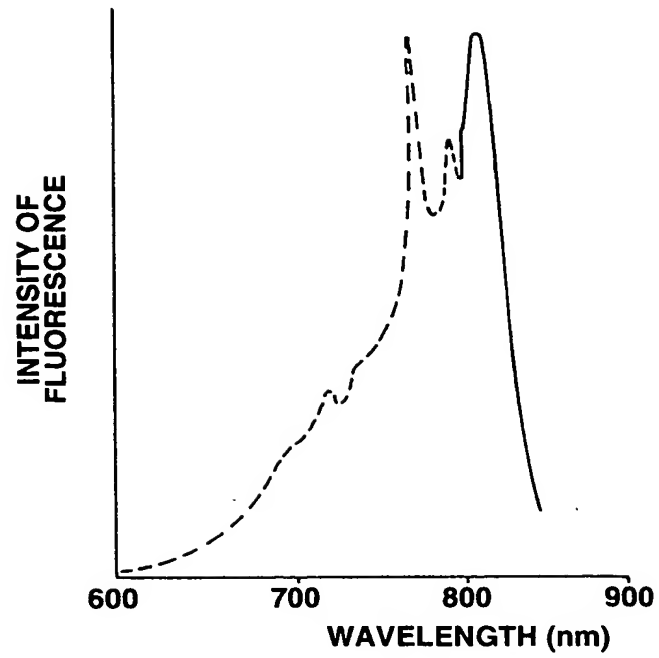


FIG.6

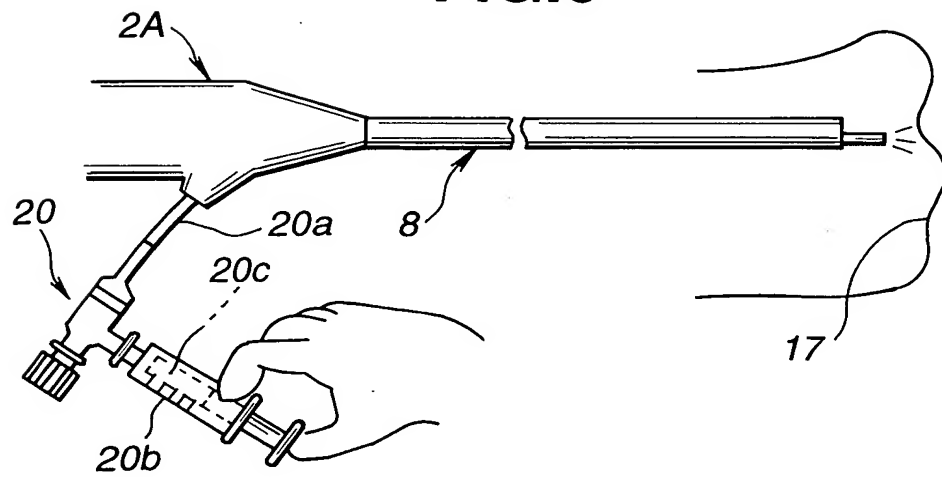


FIG.9

37

| | | | |
|---|----|---|----|
| R | G | R | G |
| B | IR | B | IR |
| R | G | R | G |
| B | IR | B | IR |

FIG.7A

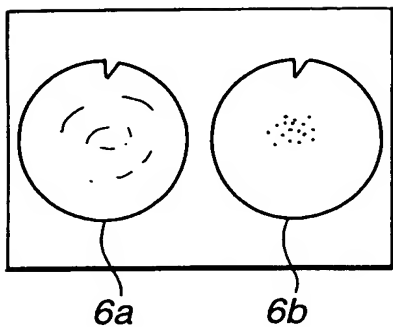


FIG.7B

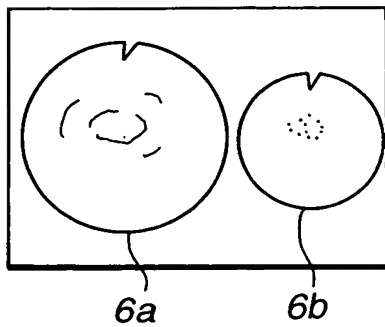


FIG.7C

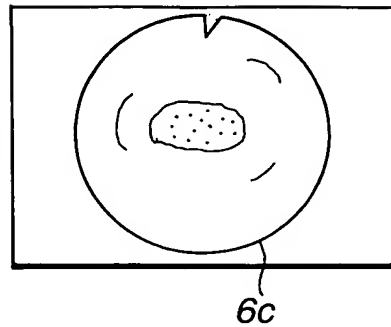


FIG.7D

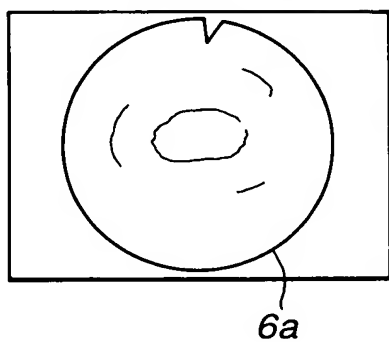


FIG.7E

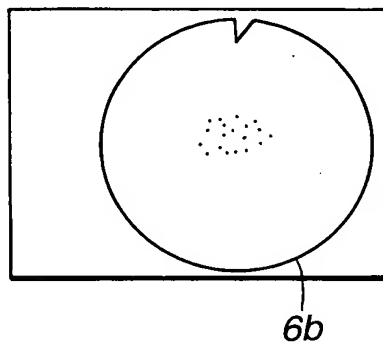


FIG.10

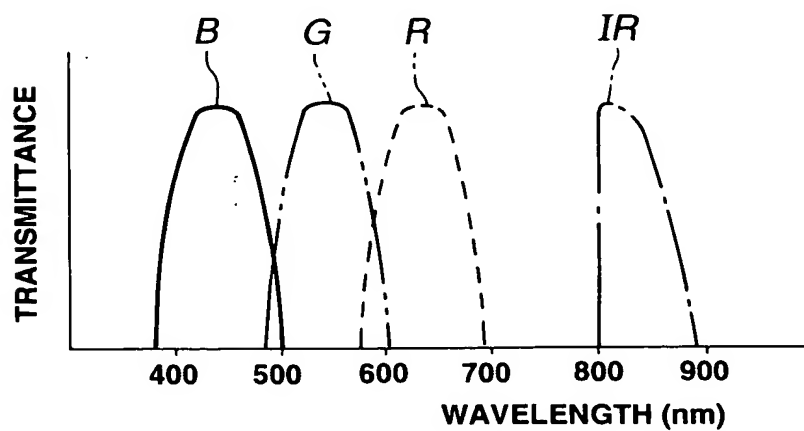


FIG. 8

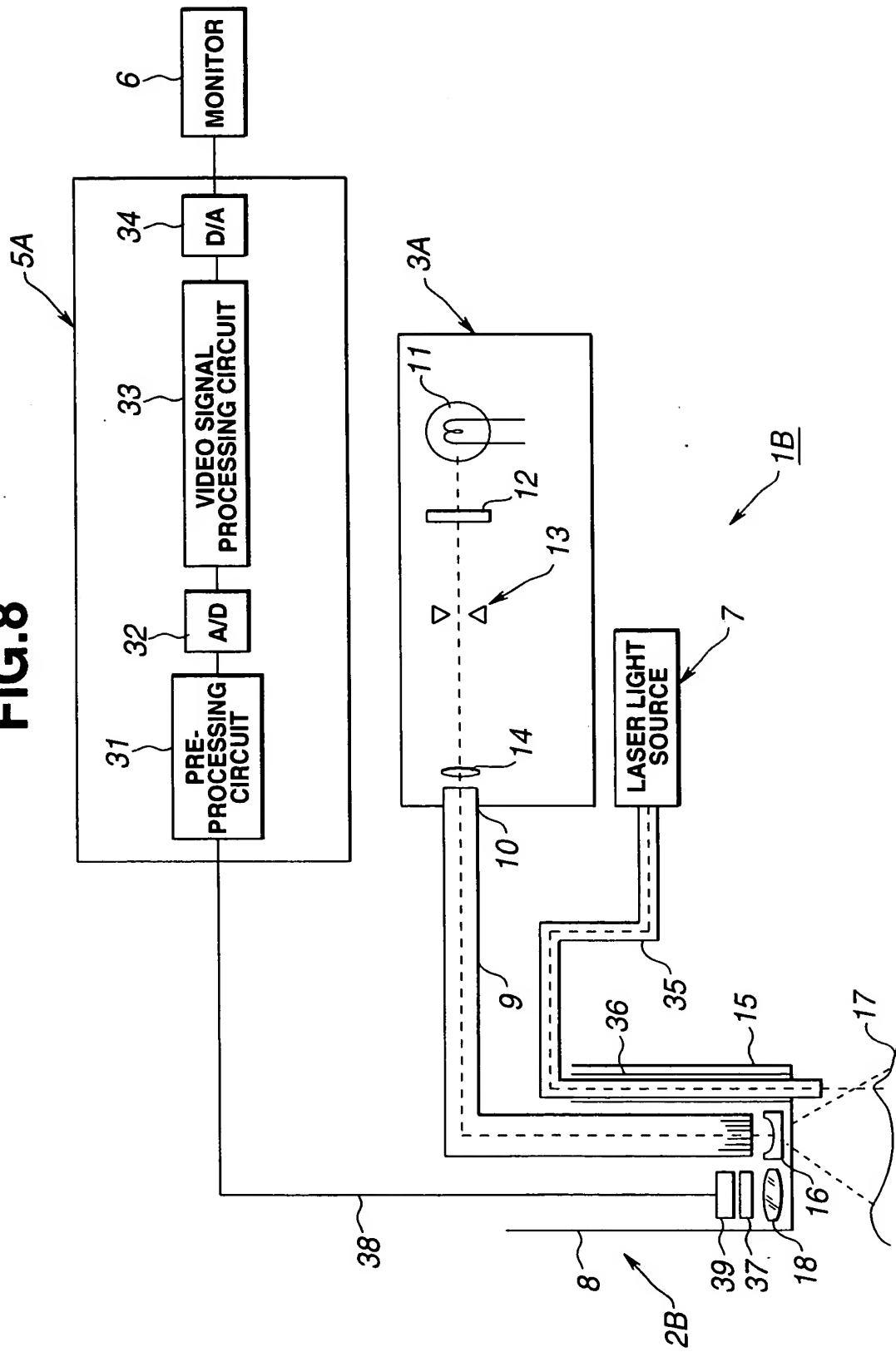


FIG. 11

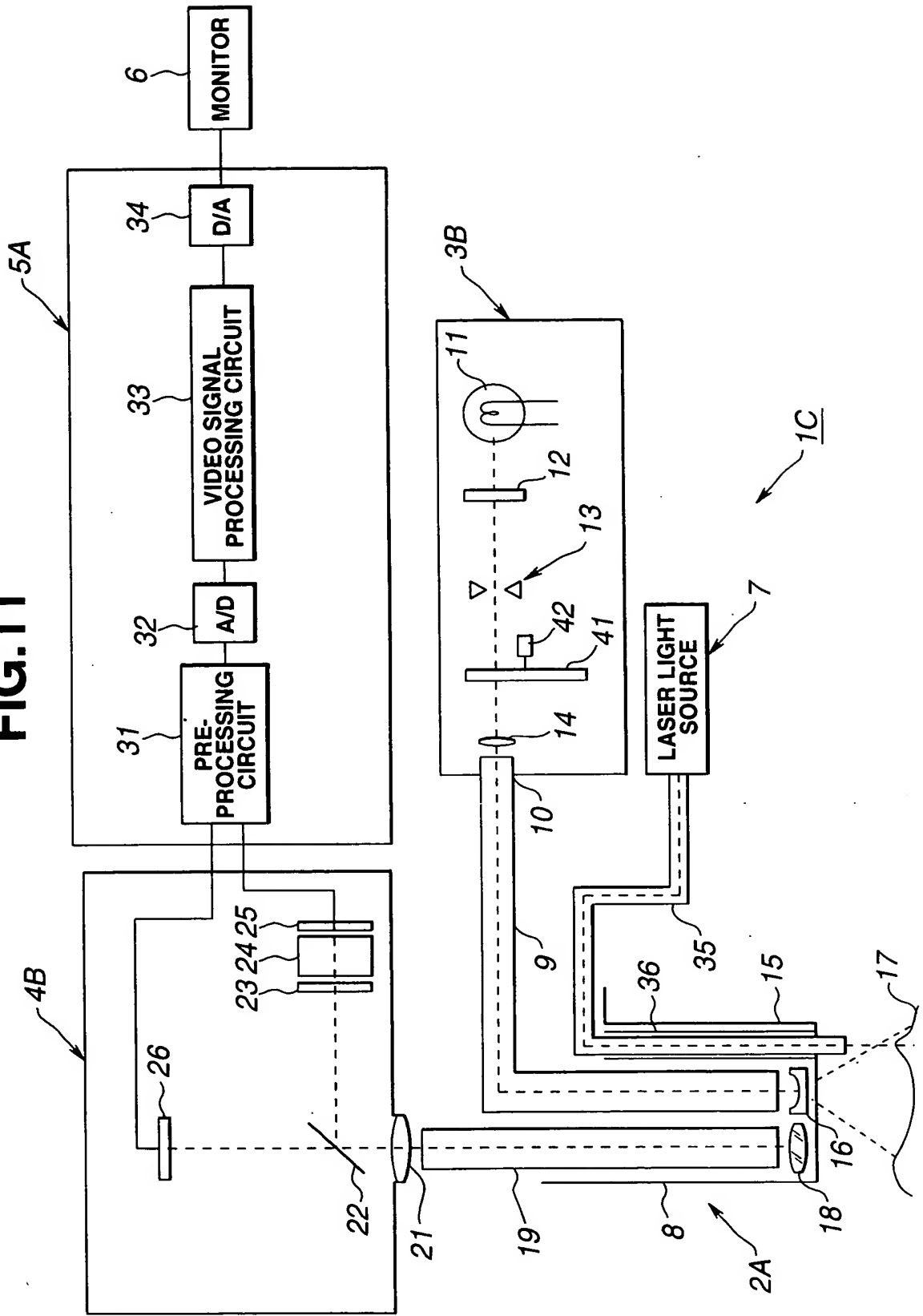


FIG.12

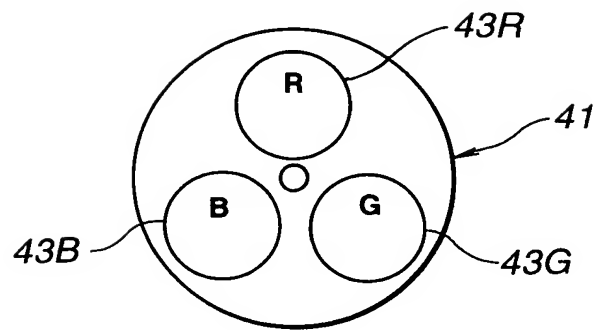


FIG.13

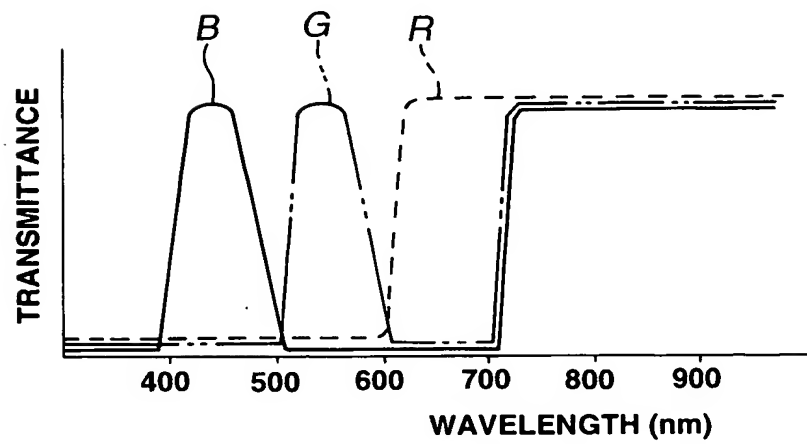


FIG. 14

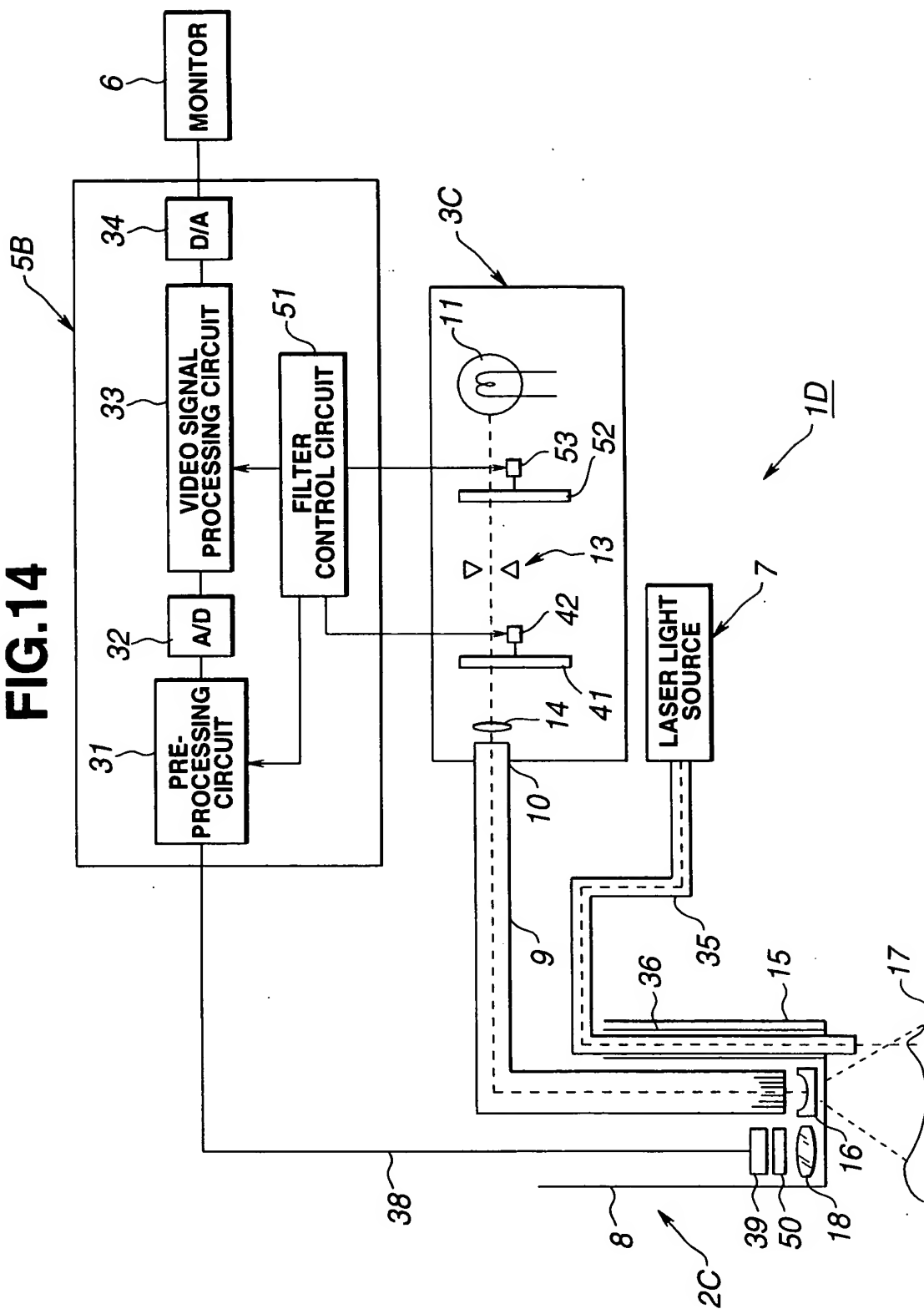


FIG.15

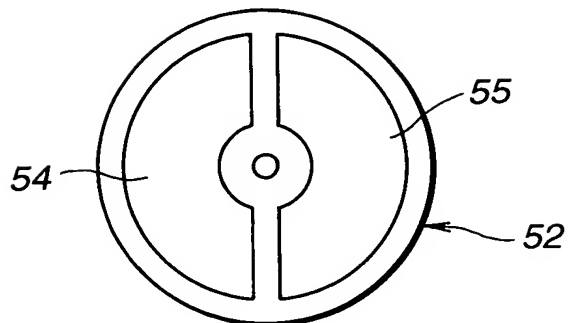


FIG.16

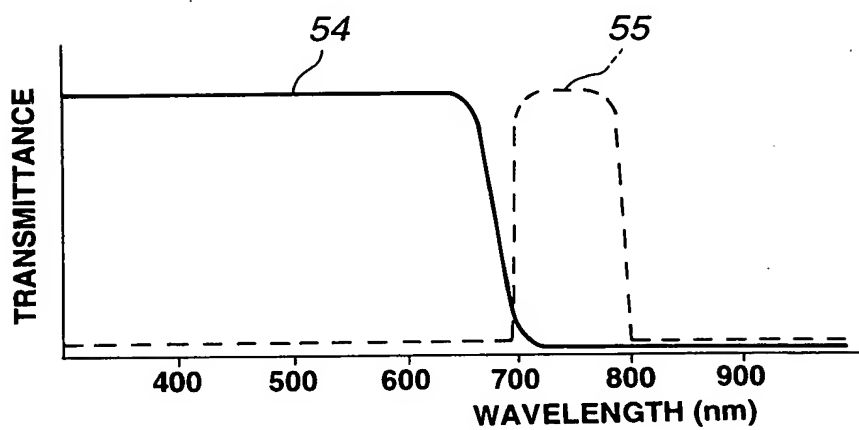


FIG.17

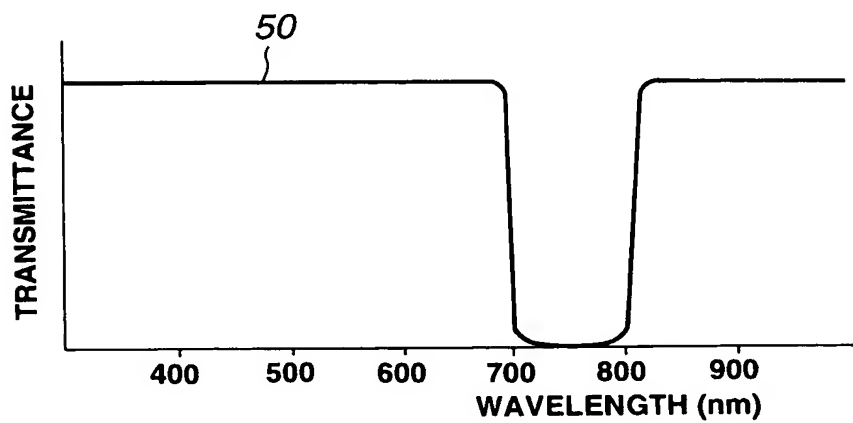


FIG.18

| SPECTRUM RESTRICTION ROTARY FILTER | VISIBLE LIGHT | | | | | | | | | |
|--|---------------|-------|------|-----|-------|------|-----|-------|------|--|
| | | | | | | | | | | |
| | R | G | B | R | G | B | R | G | B | |
| RGB ROTARY FILTER | | | | | | | | | | |
| | | | | | | | | | | |
| LIGHT-RECEIVING SURFACE OF CCD | RED | GREEN | BLUE | RED | GREEN | BLUE | RED | GREEN | BLUE | |
| | | | | | | | | | | |

APPROX. 11ms (90 FRAMES/SEC)

FIG.19

| SPECTRUM RESTRICTION ROTARY FILTER | INFRARED | | | | | | | | | |
|--|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--|
| | | | | | | | | | | |
| | R | G | B | R | G | B | R | G | B | |
| RGB ROTARY FILTER | | | | | | | | | | |
| | | | | | | | | | | |
| LIGHT-RECEIVING SURFACE OF CCD | FLUORESCENCE | FLUORESCENCE | FLUORESCENCE | FLUORESCENCE | FLUORESCENCE | FLUORESCENCE | FLUORESCENCE | FLUORESCENCE | FLUORESCENCE | |
| | | | | | | | | | | |

APPROX. 11ms (90 FRAMES/SEC)

FIG.20

| SPECTRUM RESTRICTION ROTARY FILTER | VISIBLE LIGHT | | | | | | | | | | | | | |
|--|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|------------------|-------------------|
| | | | | | | | | | | | | | | |
| | VISIBLE LIGHT | INFR -RED | VISIBLE LIGHT | INFR -RED | VISIBLE LIGHT | INFR -RED | VISIBLE LIGHT | INFR -RED | VISIBLE LIGHT | INFR -RED | VISIBLE LIGHT | INFR -RED | VISIBLE LIGHT | INFR -RED |
| RGB ROTARY FILTER | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| LIGHT-RECEIVING SURFACE OF CCD | RED | FLUORES -CENCE | GREEN | FLUORES -CENCE | BLUE | FLUORES -CENCE | RED | FLUORES -CENCE | GREEN | FLUORES -CENCE | BLUE | FLUORES -CENCE | RED | FLUORES -CENCE |
| | | | | | | | | | | | | | | |

APPROX. 6ms (180 FRAMES/SEC)

FIG. 21

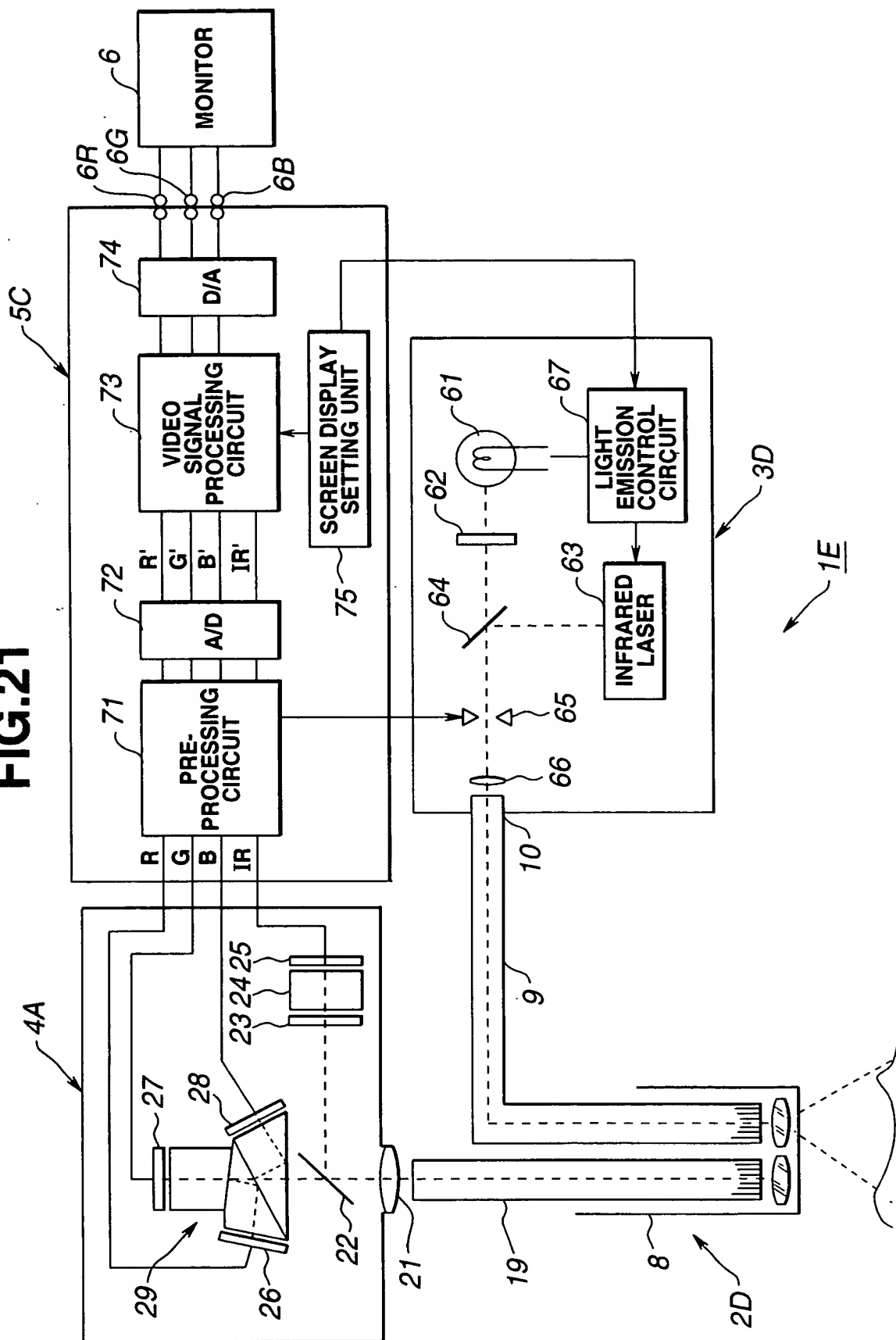


FIG.22

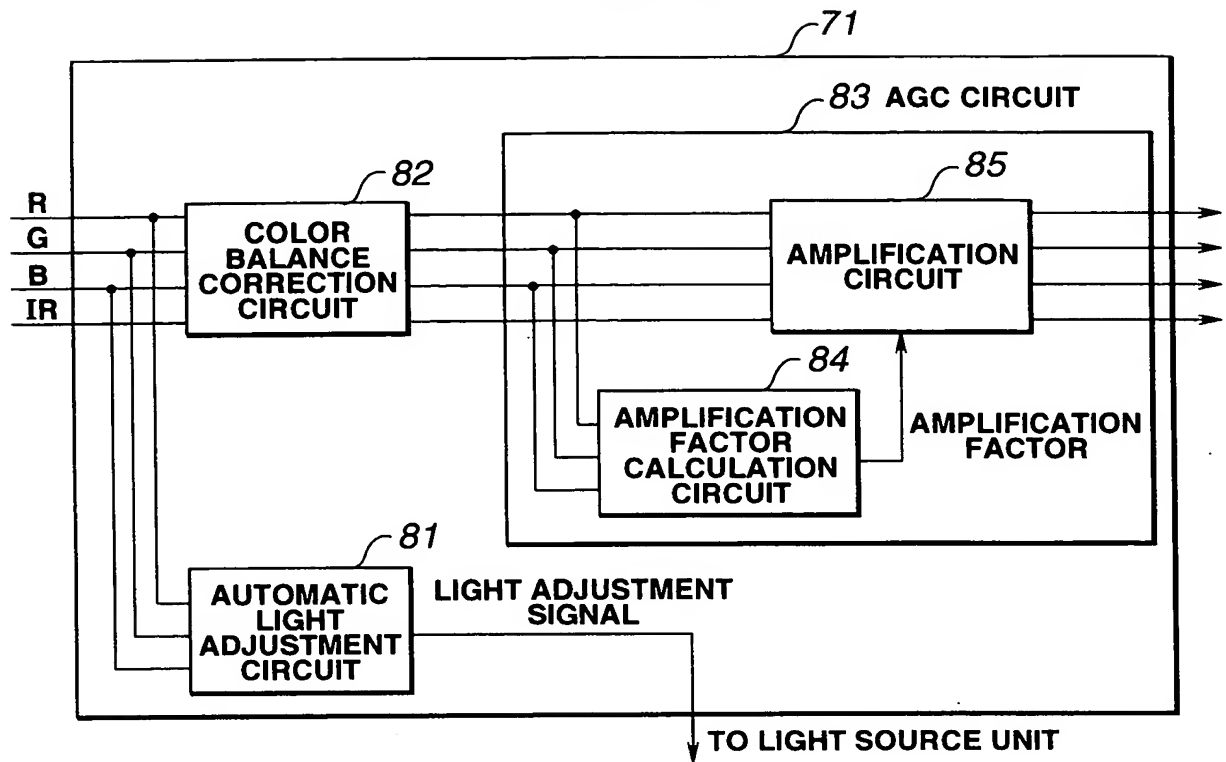


FIG.23

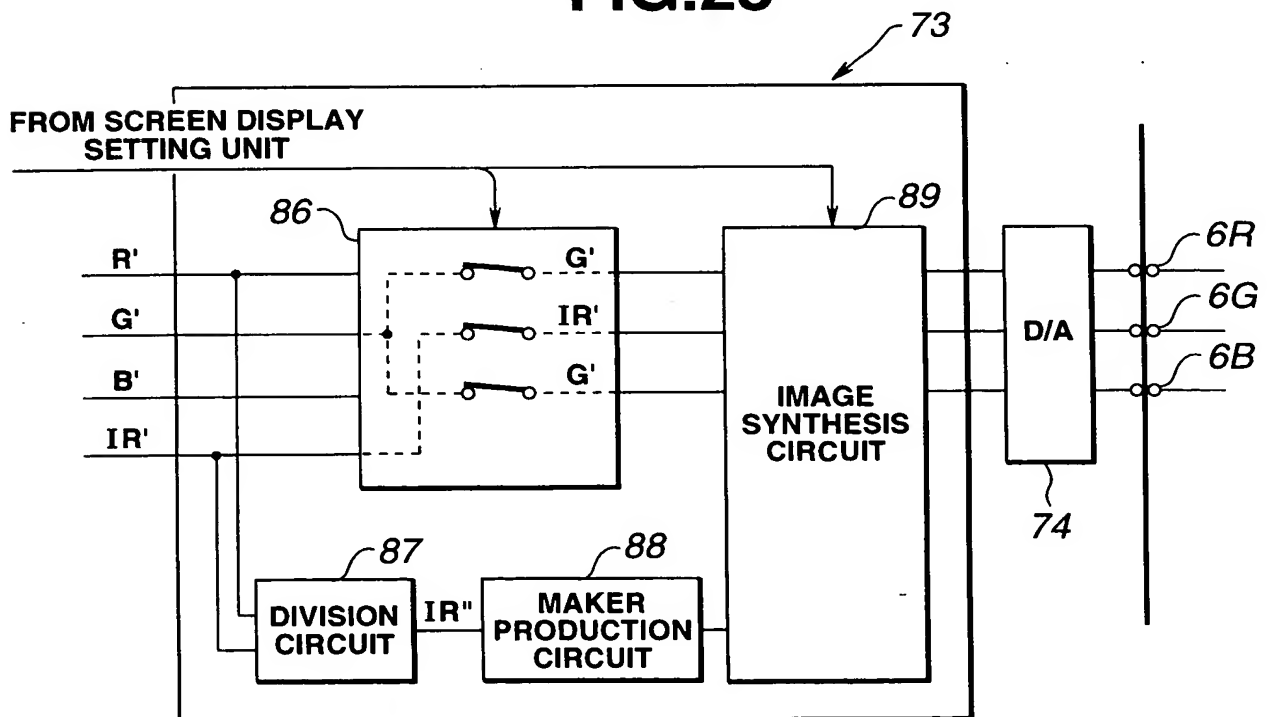


FIG.24

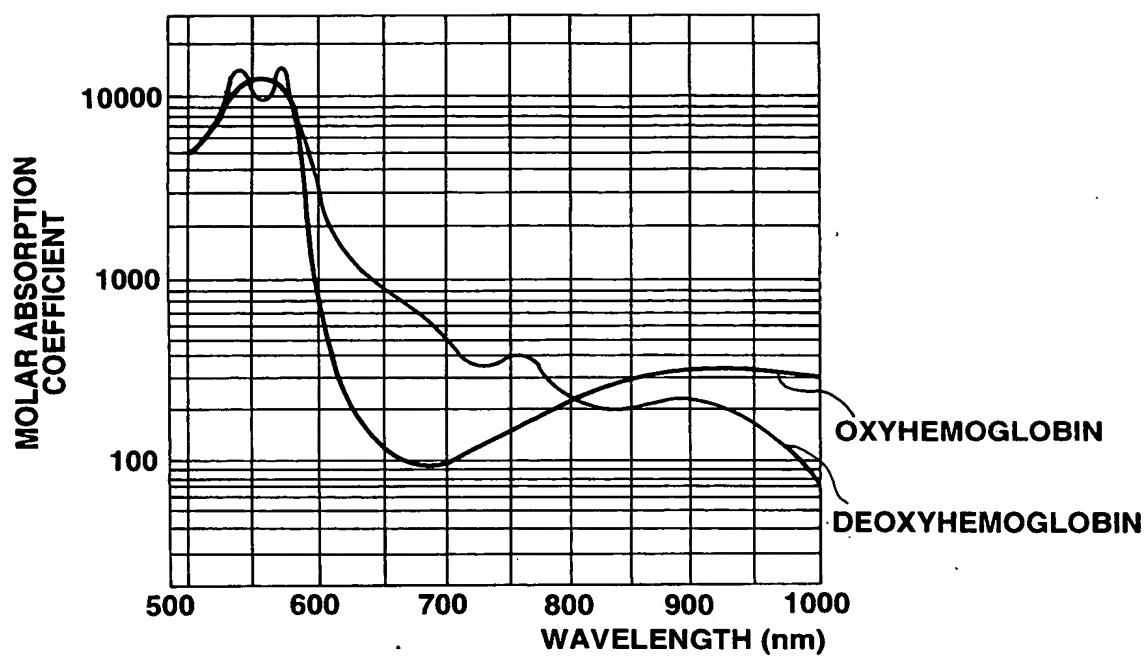


FIG.25

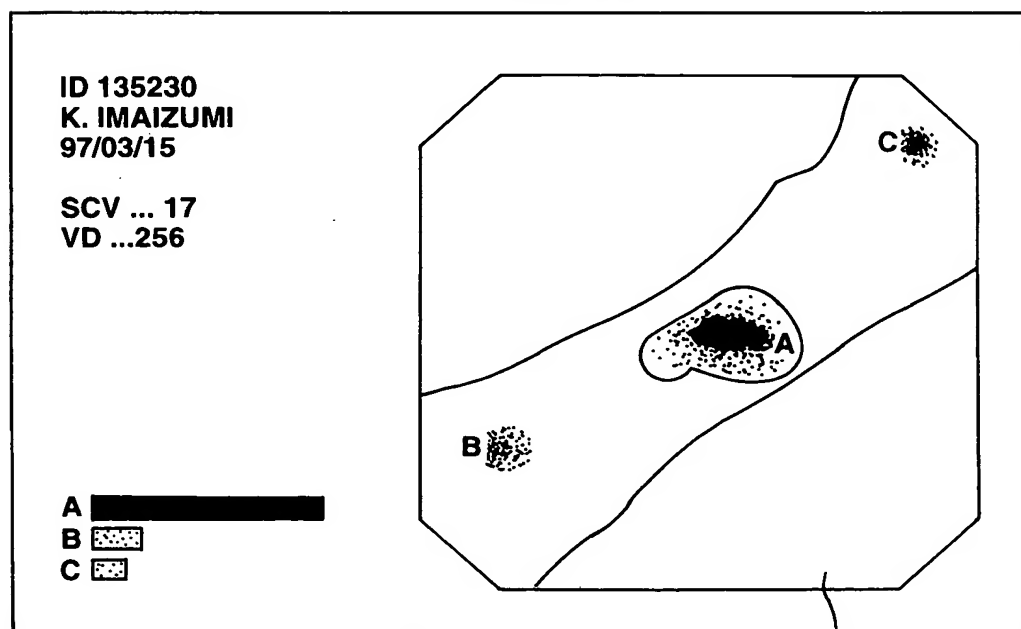


FIG.26

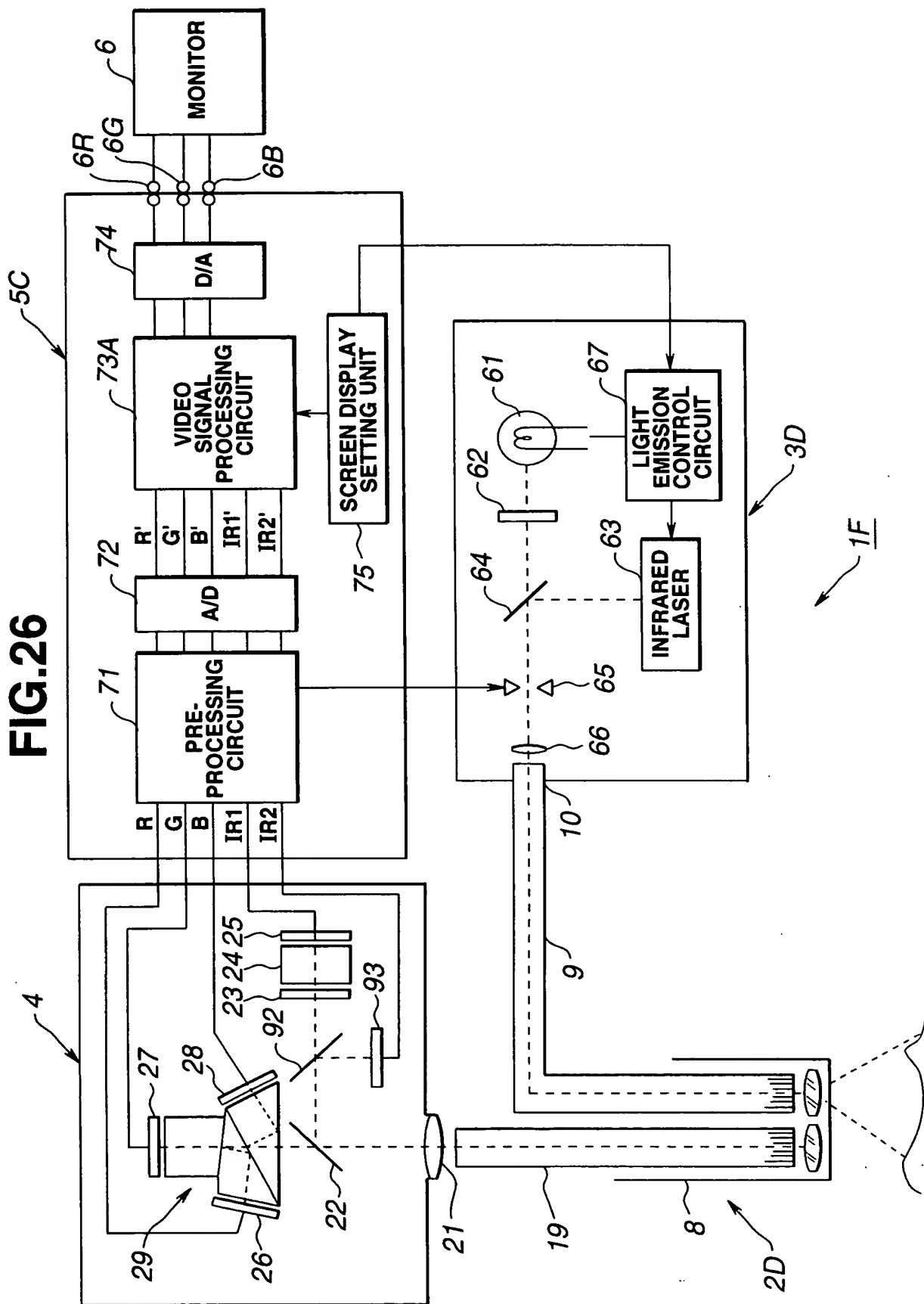


FIG.27

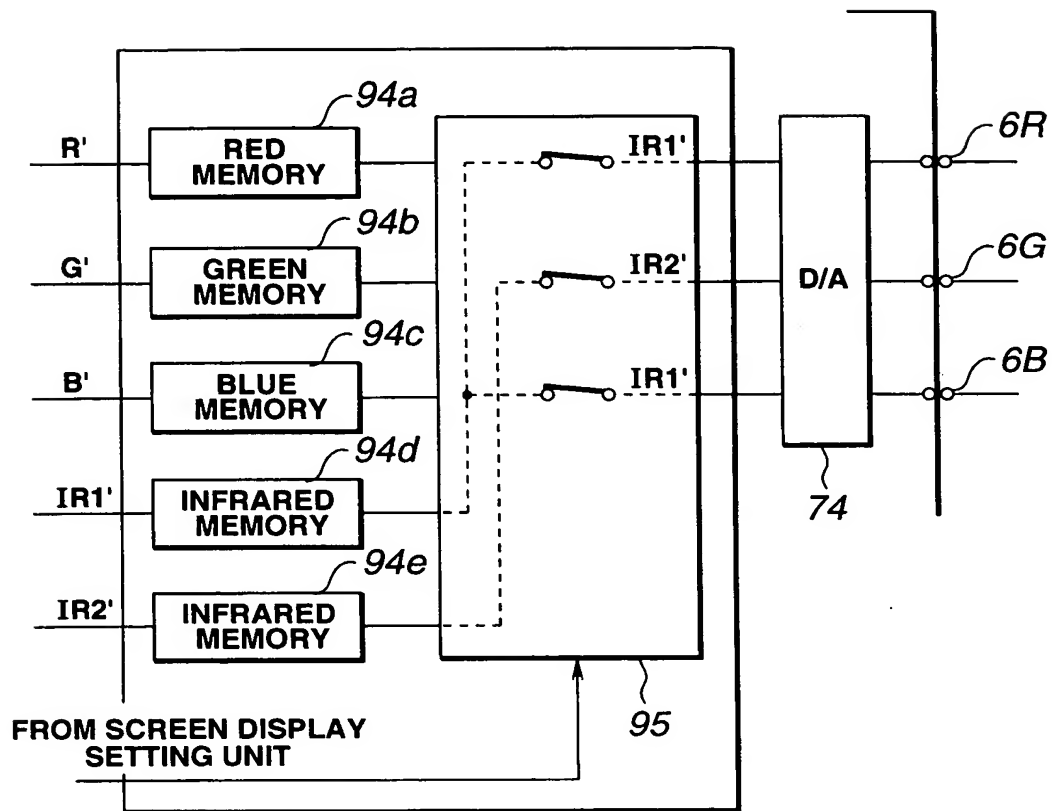


FIG.28

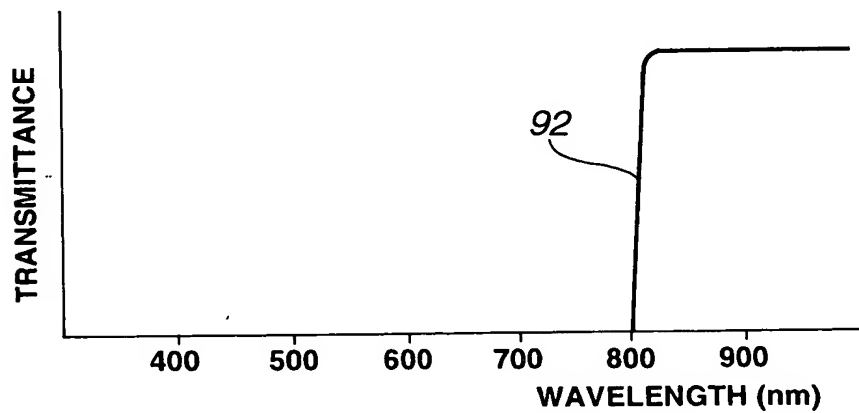


FIG.29

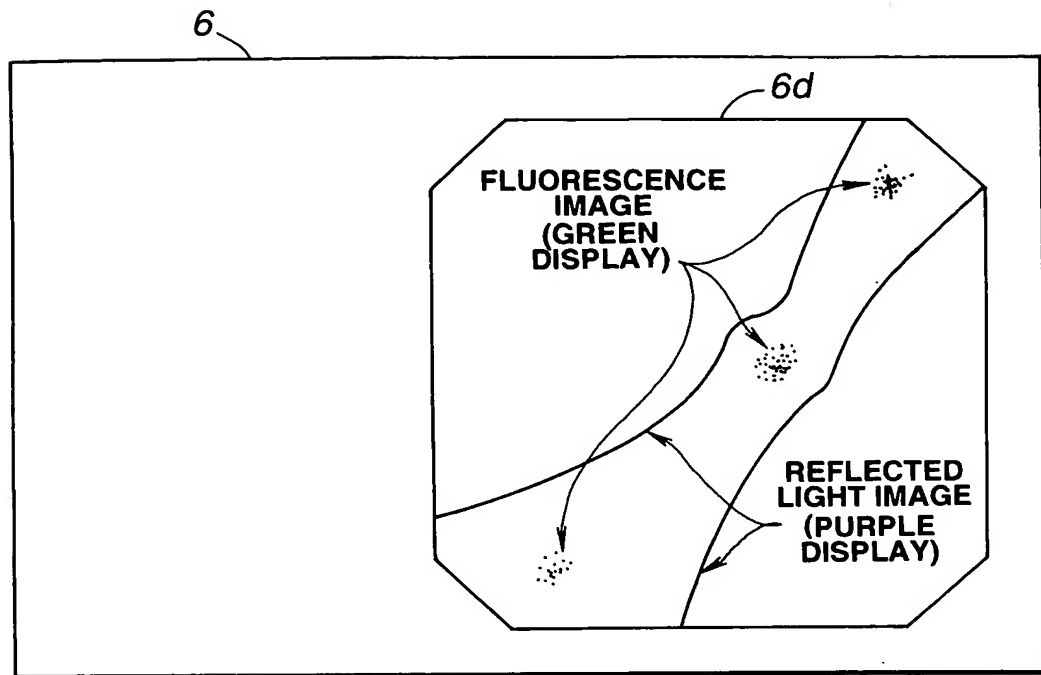


FIG.30

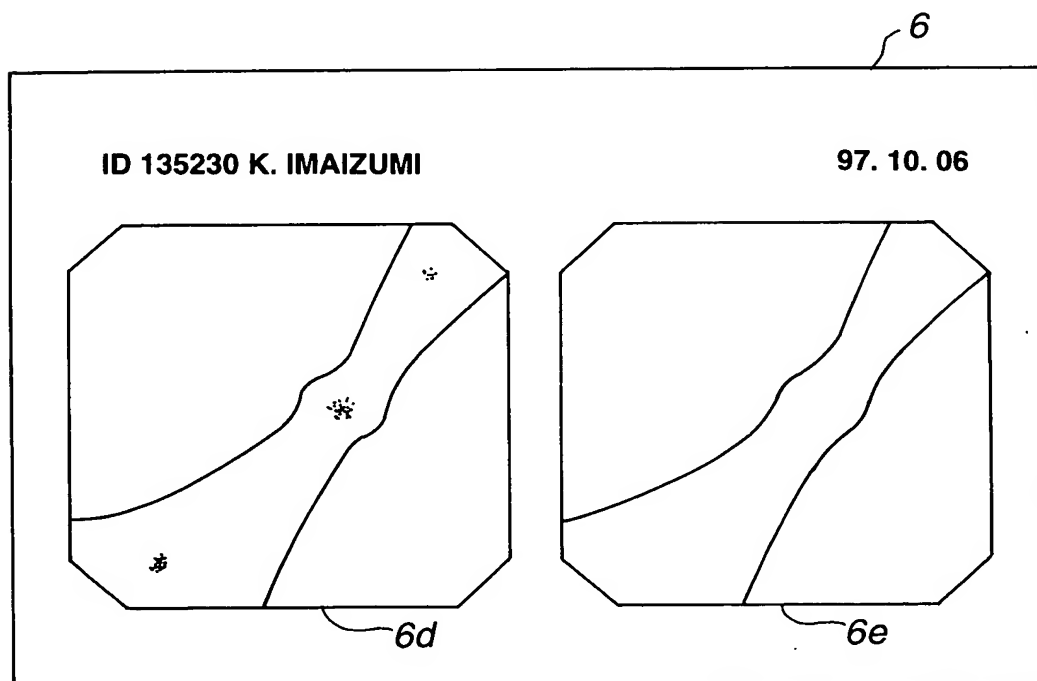


FIG.31

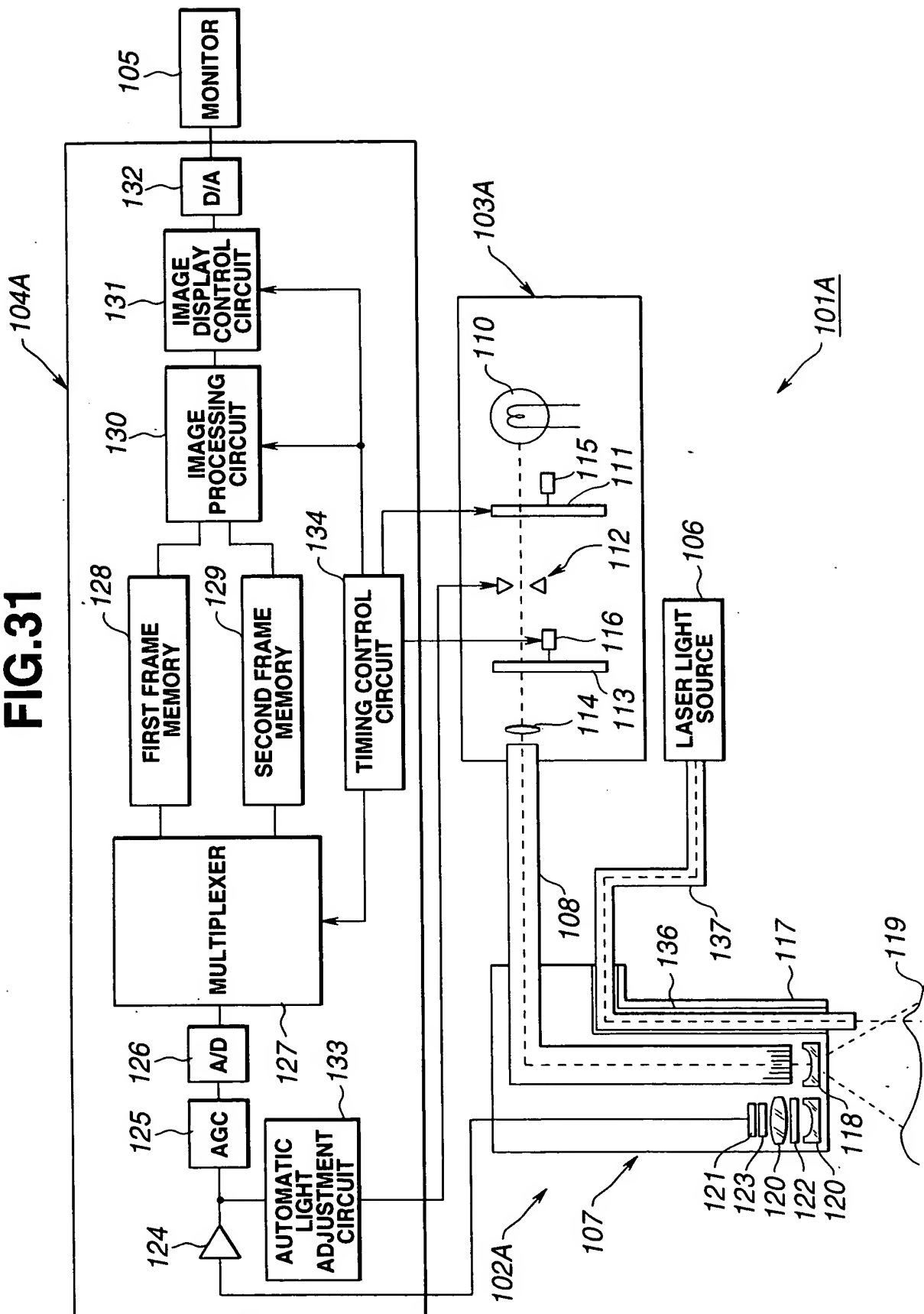


FIG.32

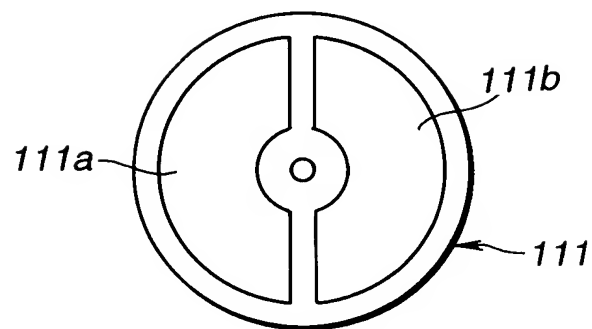


FIG.33

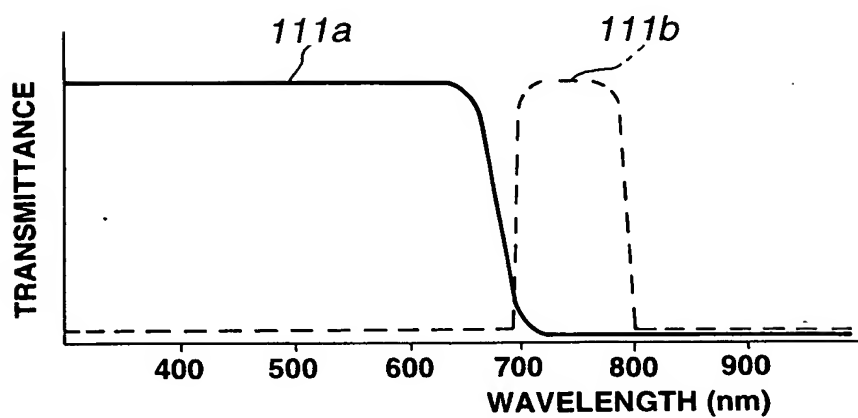


FIG.34

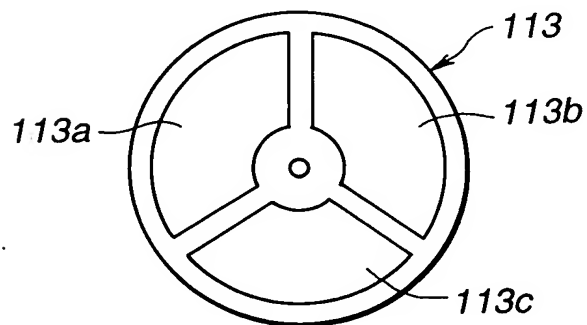


FIG.35

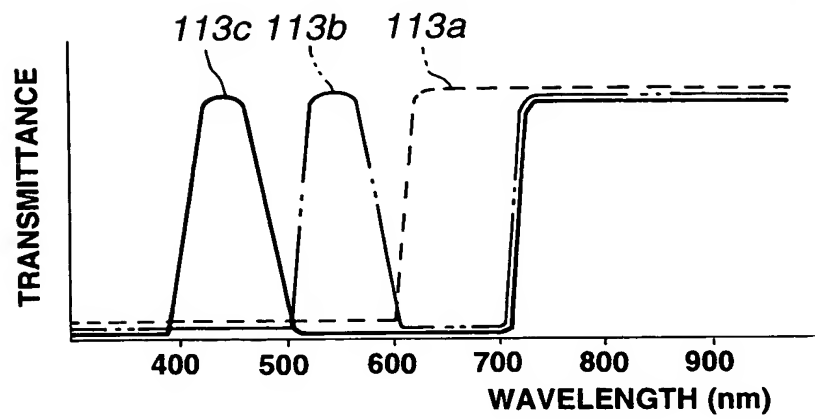


FIG.36

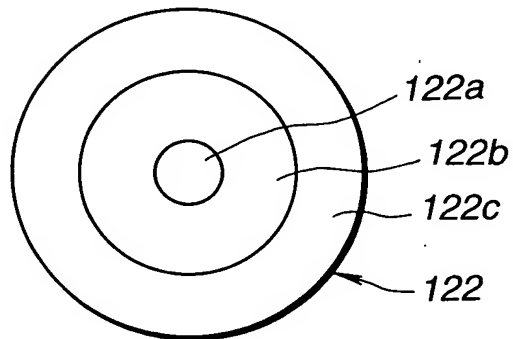


FIG.37

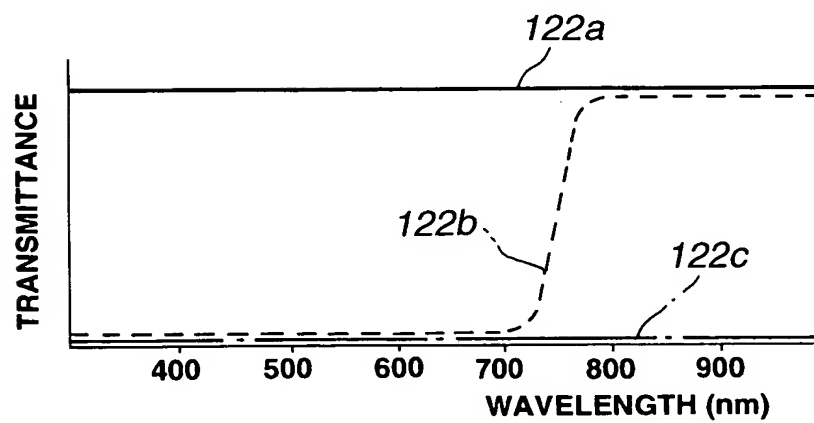


FIG.38

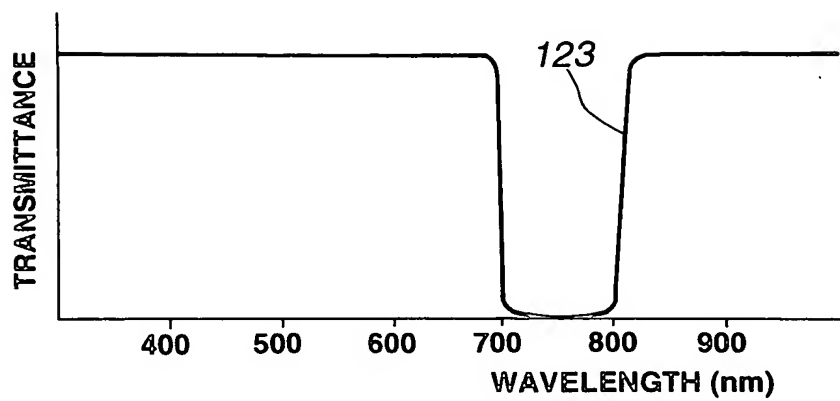


FIG.43

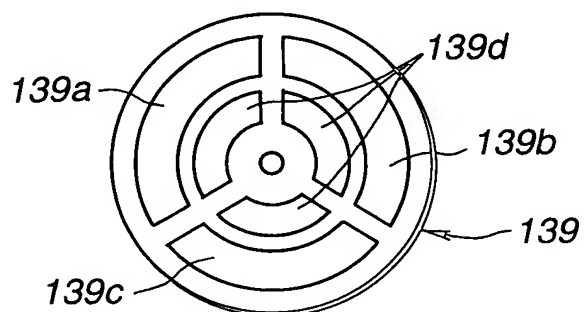


FIG.44

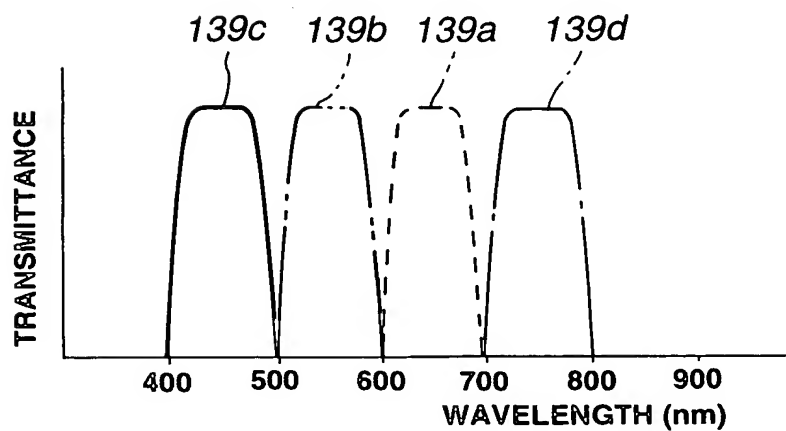


FIG.39

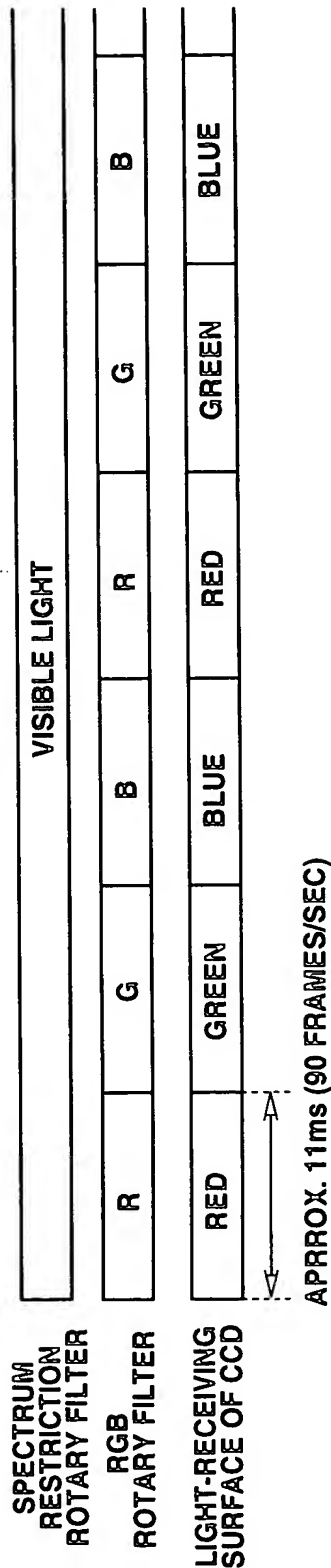


FIG.40

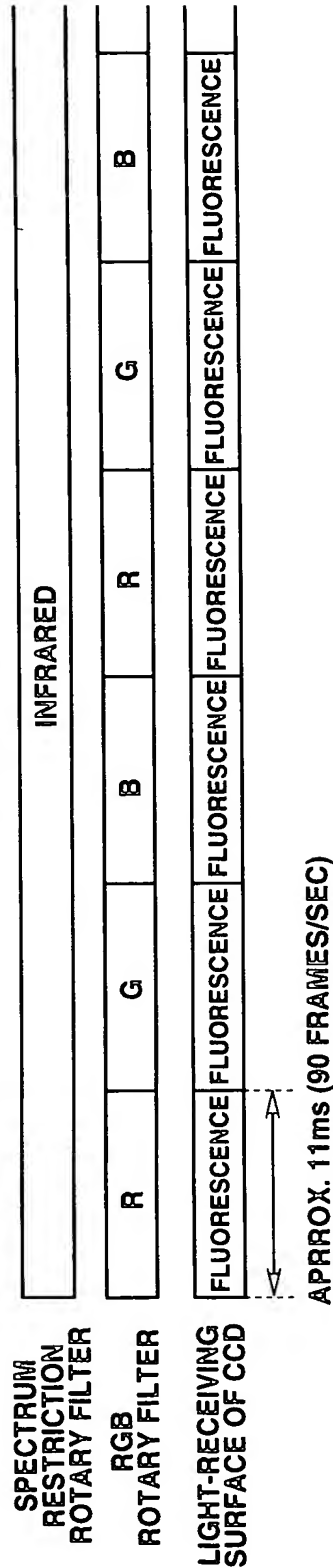


FIG.41

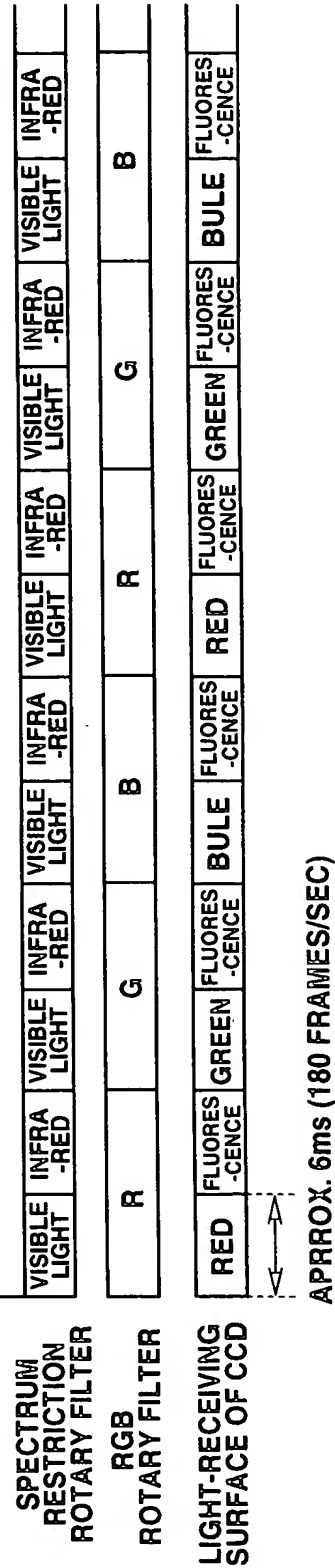


FIG.42

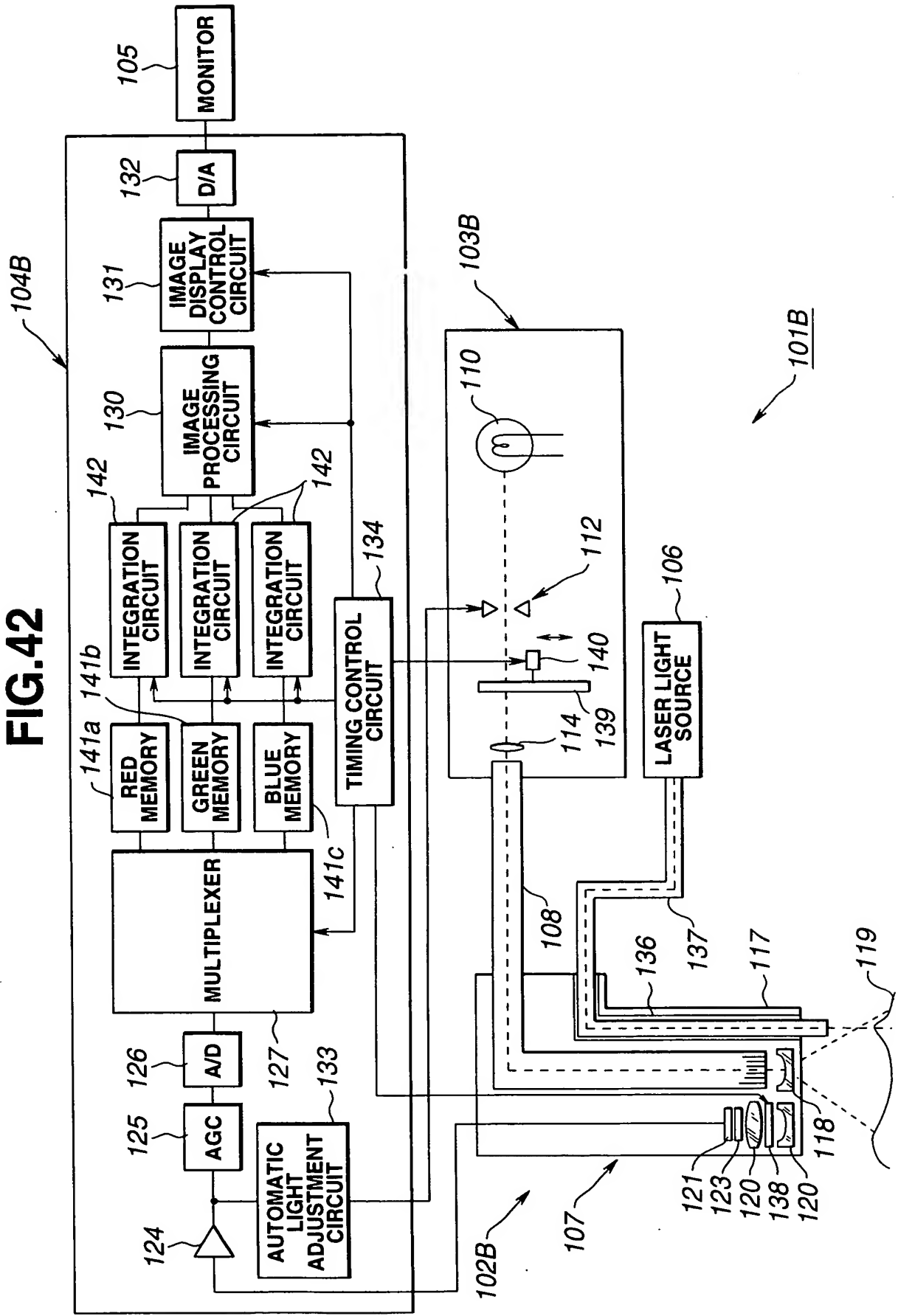


FIG.45

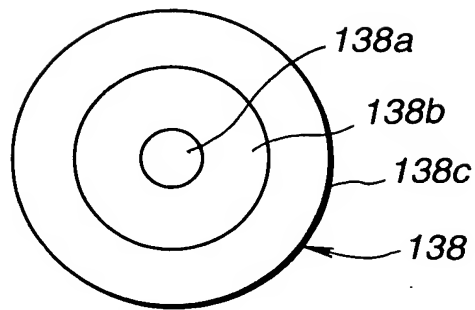


FIG.46

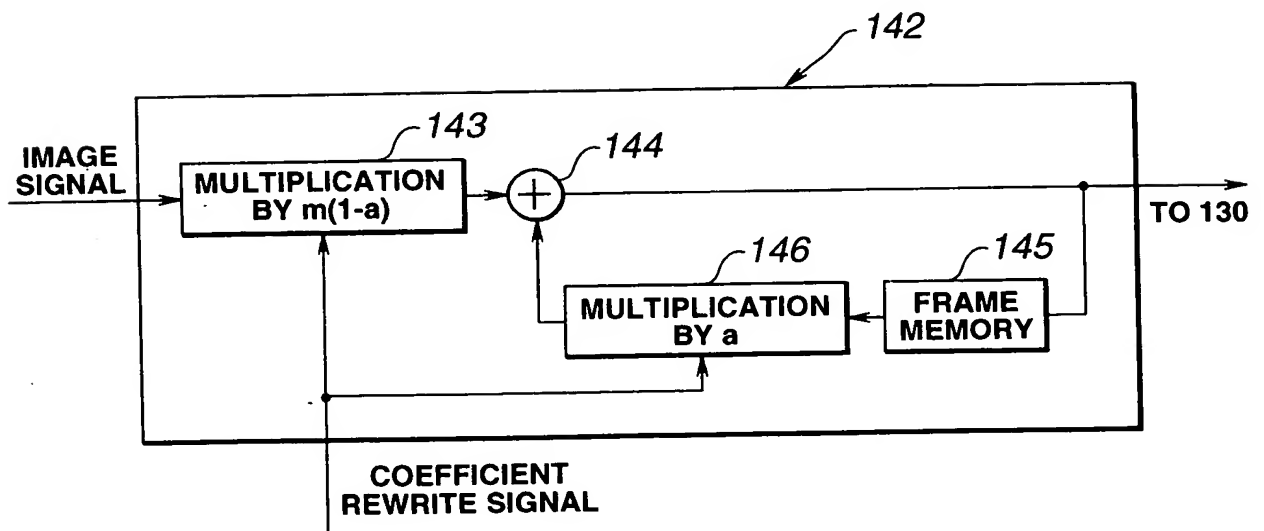


FIG.47

| | | | | | | | | | | | |
|--|------------------------------|-------|------|------------------------------|-------|------|------------------------------|--------------|--------------|------------------------------|--|
| LIQUID-CRYSTAL DIAPHRAGM | SMALL | | | LARGE | | | | | | | |
| | 0.1 | | | 0.5 | | | | | | | |
| | 1 | | | 2 | | | | | | | |
| COEFFICIENT m | 1 | | | 2 | | | | | | | |
| | 1 | | | 2 | | | | | | | |
| SPECTRUM RESTRICTION ROTARY FILTER | R | G | B | R | G | B | IR | IR | IR | IR | |
| | 1 | | | 2 | | | 3 | | | 4 | |
| LIGHT-RECEIVING SURFACE OF CCD | RED | GREEN | BULE | RED | GREEN | BULE | FLUORESCENCE | FLUORESCENCE | FLUORESCENCE | FLUORESCENCE | |
| | APPROX. 11ms (90 FRAMES/SEC) | | | APPROX. 33ms (30 FRAMES/SEC) | | | APPROX. 33ms (30 FRAMES/SEC) | | | APPROX. 33ms (30 FRAMES/SEC) | |

FIG. 48

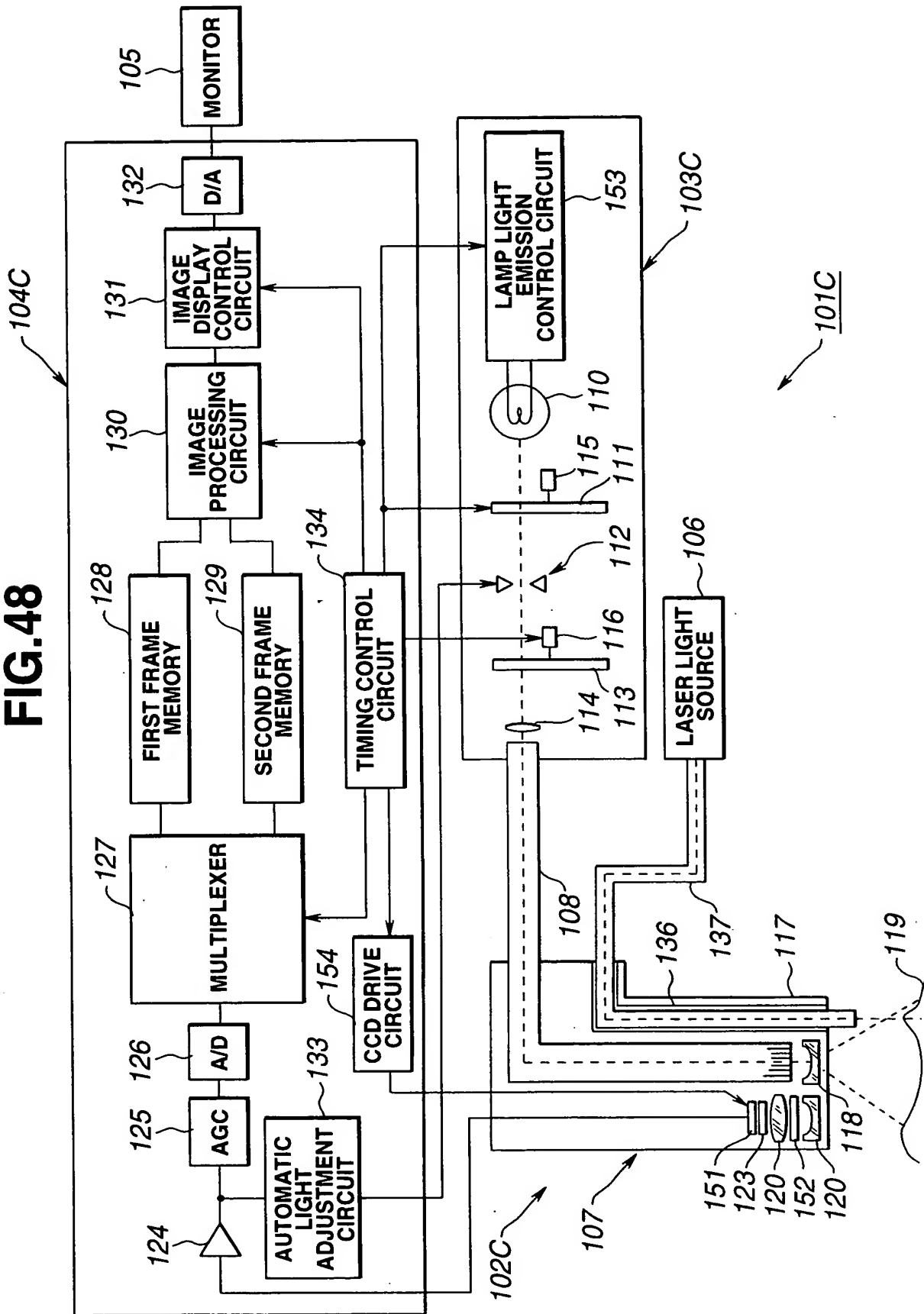


FIG.49

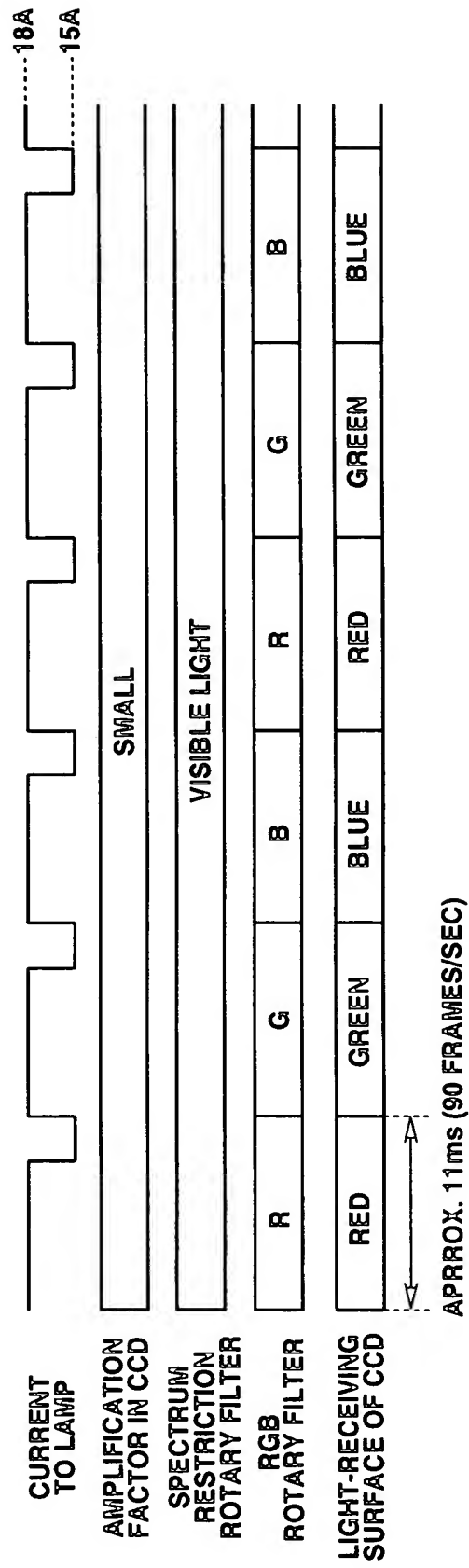


FIG.50

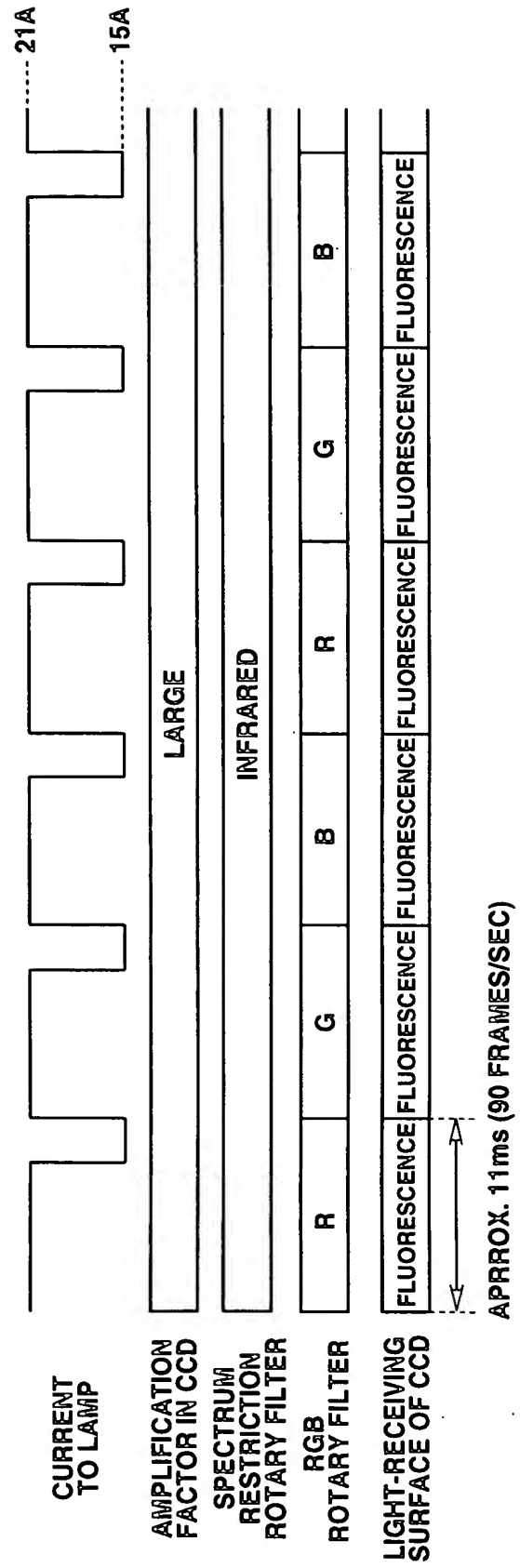


FIG. 51

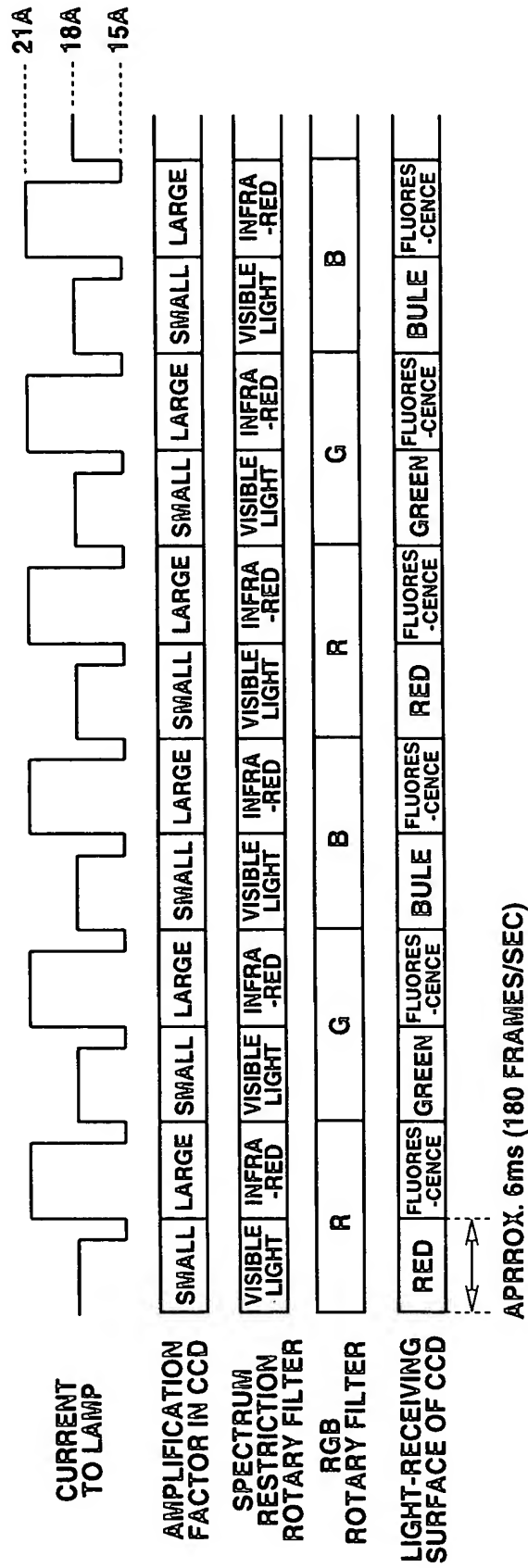


FIG. 52

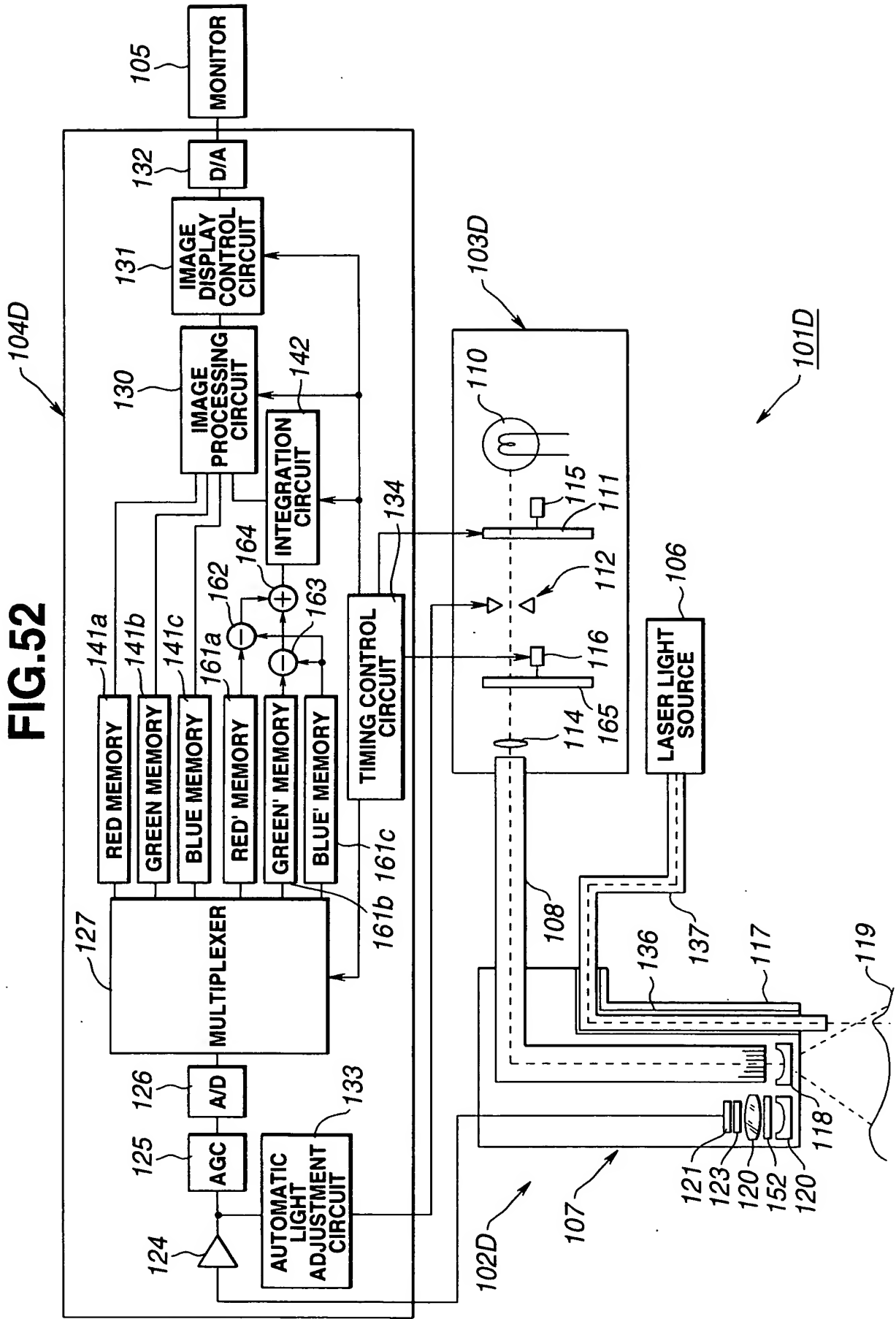


FIG.53

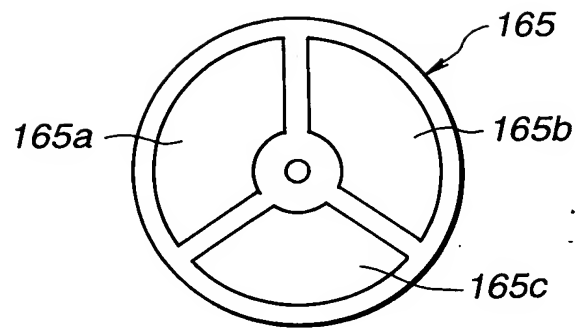


FIG.54

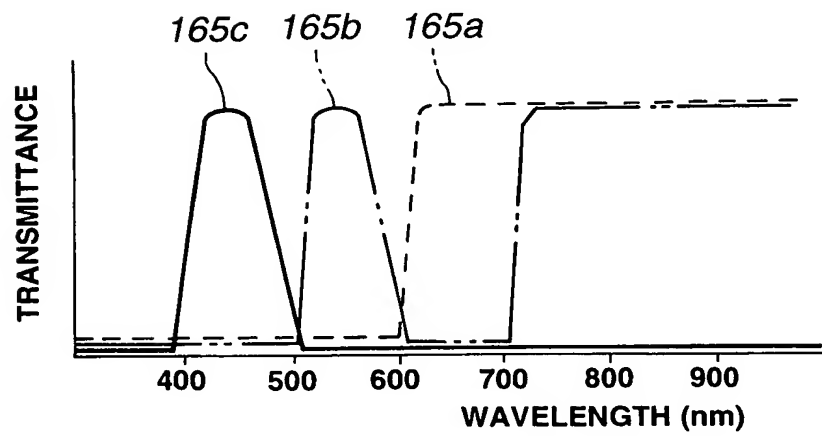


FIG.55

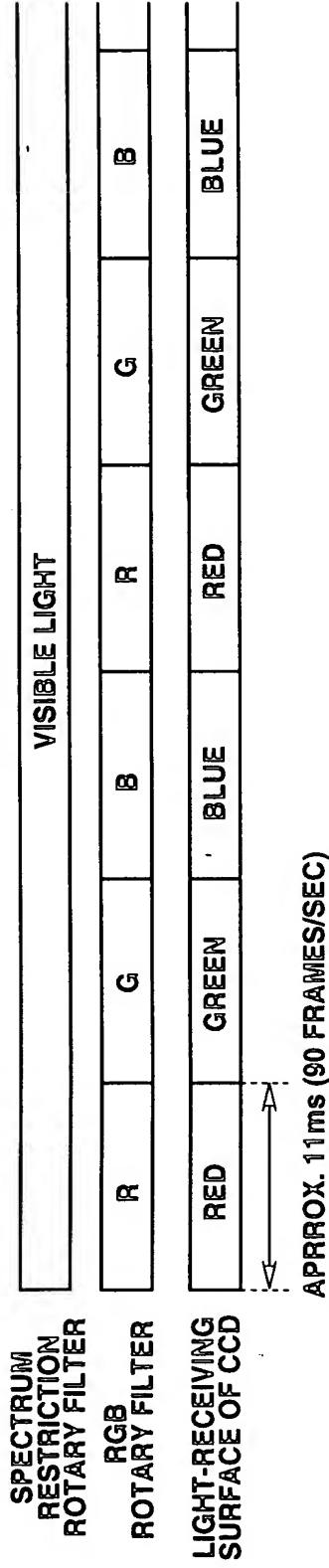


FIG.56

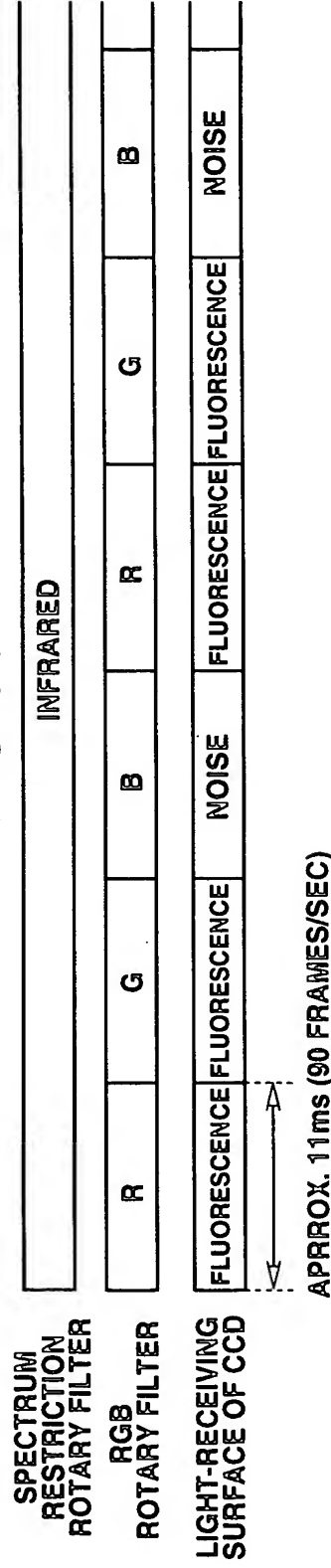


FIG.57

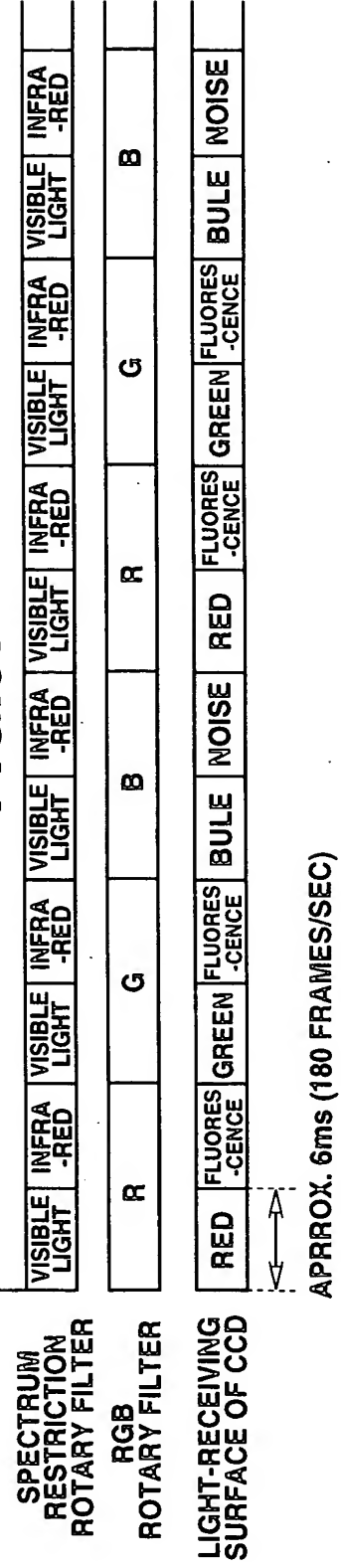


FIG.58

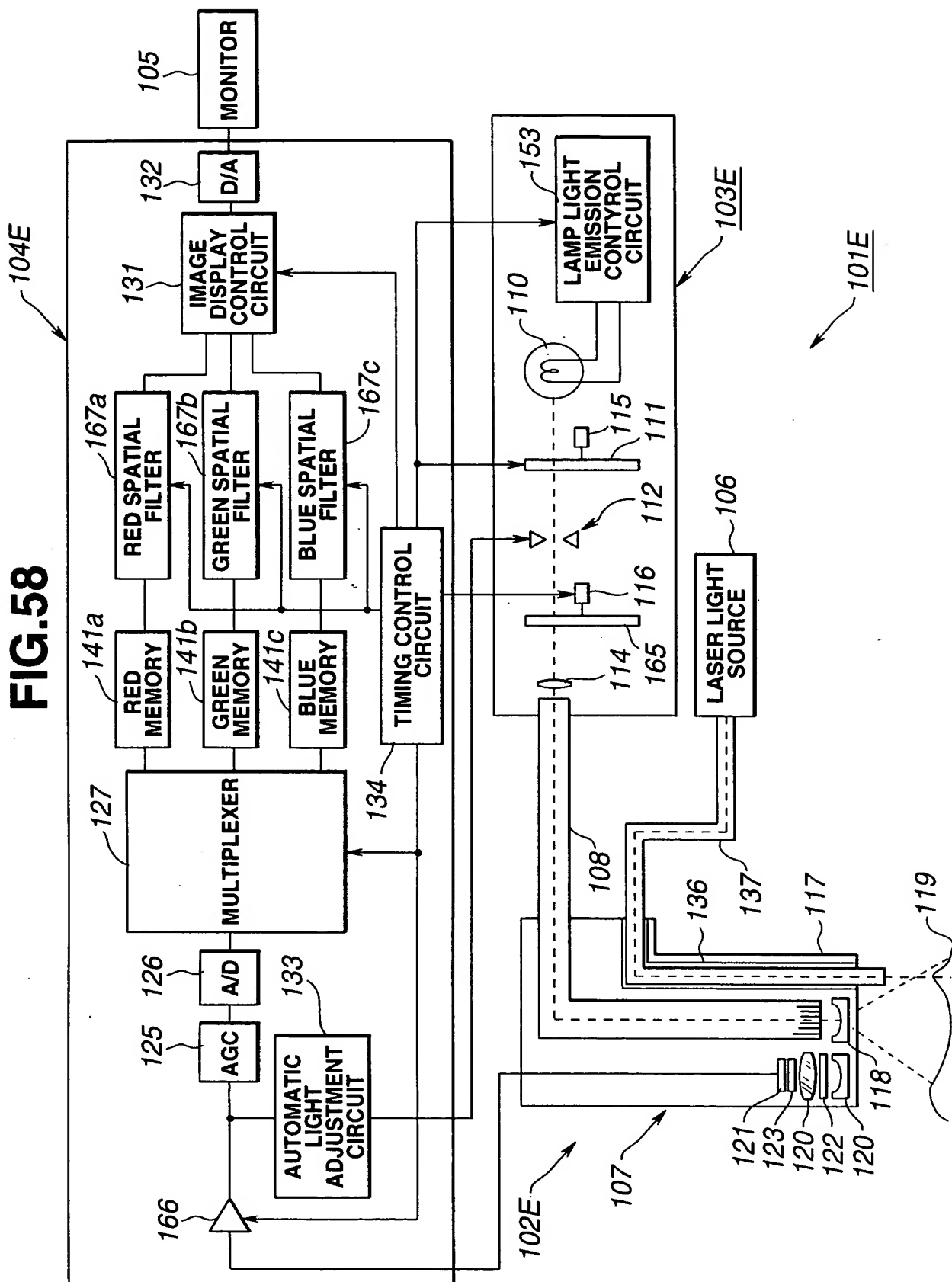


FIG.59

| | | | | |
|------|------|------|------|------|
| 1/35 | 1/35 | 1/35 | 1/35 | 1/35 |
| 1/35 | 2/35 | 2/35 | 2/35 | 1/35 |
| 1/35 | 2/35 | 2/35 | 2/35 | 1/35 |
| 1/35 | 2/35 | 2/35 | 2/35 | 1/35 |
| 1/35 | 1/35 | 1/35 | 1/35 | 1/35 |

FIG.60

| | | | | |
|---|-----|-----|-----|---|
| 0 | 1 | 1 | 1 | 0 |
| 1 | -2 | -10 | -2 | 1 |
| 1 | -10 | 37 | -10 | 1 |
| 1 | -2 | -10 | -2 | 1 |
| 0 | 1 | 1 | 1 | 0 |